

CHAPTER 4  
LAND USE AND AIR QUALITY

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## **CHAPTER 4**

### **LAND USE AND AIR QUALITY**

#### **410 LAND USE**

This section of the permit application includes descriptions of the premining and proposed postmining land use(s). Additional information can be found in the following amendments: Methane Degassification Amendment (August 2003), Refuse Pile Amendment (February 2003), and the Leachfield Addendum A-1 (March 2001). The remainder of the State Lease ML-48435-OBA (SITLA Lease) was incorporated into the Dugout Canyon Mine permit area in 2004. Refer to Plate 1-2 and 4-1 for the location of the acreage incorporated into the permit boundary.

In 2007 acreage (487.57 acres) was added to existing Federal Coal Lease U-07064-027821, two hundred and forty-seven acres of this added acreage is already included as part of the Dugout permitted area. Acreage was previously added to the permit area in excess of the Federal leased acreage to act as a subsidence buffer zone (207.57 acres) and to accommodate a revised mine plan (40 acres). In addition, State Lease ML-50582-OBA (320 acres, more or less) was issued to Dugout Canyon Mine in 2007. Future surface disturbance of these leases will be permitted as needed to facilitate mining activities.

Appendix 4-4 in the M&RP and in the confidential folder contains letters authorizing land use by Dugout Canyon Mine for data collection, exploration and degasification drilling and water monitoring

#### **411 Environmental Description**

A statement of the conditions and capabilities of the land to be affected by coal mining and reclamation operations follows in this section.

#### **411.100 Premining Land Use**

The permit area has been primarily utilized as rangeland for livestock and wildlife habitat. Some crops related to the livestock industry have been developed along the creek bottoms adjacent to Soldier Creek Road. However, no crops have been raised within the permit area. Recreational use of the permit area is limited due to lack of access through private property.

The predisturbed area boundary outlined on Plate 5-4 reflects disturbance prior to 1965. The boundary was compiled from a 1980 map of the pre-mining topography prepared by Eureka Energy Company. According to historical data the Dugout Canyon area was last mined in 1964.

##### Pace Canyon

Archaeological inventories in the area were completed in 1980 by AERC who surveyed the access road into Pace Canyon to the Snow Mine site which is the currently proposed location of the fan site facility. The proposed fan site does not encompass the mine itself, but merely the facility area associated with the Snow Mine. The Snow Mine (42CB292) facility was active in 1906 but had its primary production period from 1932 - 1940. When inventoried the site was in moderately fair condition and avoidance was recommended in the 1980 inventory, however the site was **not** recommended for nomination to the National Register of Historic Places (Hauck & Weder: 1980). During an inventory by Senco-Phenix in 2001 the BLM requested a second evaluation of the Snow Mine site utilizing current National Register of Historic Places (NRHP) criteria. Senco-Phenix recommendation was "the area has been heavily logged since the initial recordation and the area around the mine extensively disturbed by heavy equipment, probably dozed. The foundation has been destroyed and the coal loadout has been collapsed and pushed into the bed of Pace Creek. The rock-covered adit and adjacent stonewall are still there on the other side of Pace Creek (east).....Other than recent trash no artifacts were observed. The integrity of the site has been basically destroyed. The site is not recommended for the NRHP" (Senulis: 2001). The 2001 evaluation also stated "no historic properties will be affected and no further cultural resource inventory is necessary".

In October 2003, Senco-Phenix performed an additional survey of the Snow Mine area in conjunction with a exploration drilling project proposed and approved by the BLM in 2003. The surveys mentioned in this section are on file with the BLM an/or in the Confidential Binder.

#### **411.110 Land Use Map**

Plate 4-1 designates the prominent land uses within and adjacent to the permit boundary. Pace Canyon has a corral just above a locked gate in Section 25, Township 13 South Range 12 East (Plate 4-1). The main livestock watering source is Pace Creek and it's tributaries in Sections 19, 20, 21 and 22, Township 13 South Range 13 East (Plate 4-1) and the Clark's Valley Reservoir, approximately 3 miles southwest of the Pace Fan Portal site (outside of area covered by Plate 4-1).

#### **411.120 Land Capability**

The area surrounding Dugout Canyon supports a variety of land uses including industrial, agricultural, and recreational. Carbon County has zoned the permit area for mining and grazing.

Energy resource development occurs throughout the region in the form of coal mining, oil and gas production and tar sands development. A methane gas recovery operation was formerly running in conjunction with the Soldier Canyon Mine which lies west of the Dugout Canyon Mine permit boundary. The Soldier Canyon Mine has been in operation since 1976.

The major plant communities in the Dugout Canyon lease area are identified in Section 321. No cultivated lands lie within the permit boundary, due to the limiting terrain and lack of water for irrigation. Refer to Section 321.100 for forage production per acre.

The permit area is used for grazing cattle, but sheep have grazed in the area previously. Valley bottoms receive little grazing due to their limited forage and narrowness except in the vicinity of water sources. Steep slopes receive limited grazing pressure from livestock because of the steep inclines and the lack of water. Flatter mesa tops and rolling terrain receive heavier pressure

because of easier movement by livestock and more available forage. Grasses are preferred forage for cattle; however, cattle will eat forbs and shrub species.

The use of land for grazing is dictated by the condition of and access to the specific areas. At the land owners discretion land may be used for grazing one year and not used again for five years. However, grazing should continue to be considered a potential land use for the permit and adjacent areas.

The permit area supports limited recreation due to inaccessibility to privately owned lands.

#### **411.130 Land Use Description**

The permit area lies within undeveloped lands used primarily as wildlife habitat and for livestock grazing. Five grazing allotments are located in or adjacent to the permit area (Plate 4-1). The allotments support 429 head of cattle from May through October. The grazing allotments as listed below are administered by the U. S. Bureau of Land Management (BLM): Pine Canyon Allotment No. 24089 supports 50 head of livestock, Dugout Allotment No. 34039 supports 60 head, Pole Canyon Grazing Allotment No. 34092 supports 144 head, Cow Canyon Allotment No. 34032 supports 95 head, and Pace Canyon Allotment No. 24085 supports 80 head of livestock. The grazing allotment within the vicinity of the fan portal facilities is the Pace Canyon Allotment No. 24085, both the existing road and proposed facility site occur within this allotment. The existing Pace Canyon road passes near the main watering sources and holding corral for livestock on this allotment.

Recreation in the permit and adjacent areas includes camping, hunting, and hiking from Spring to late Fall. Recreational use is light due to restricted access to privately-owned lands. There are no developed or inventoried recreation campgrounds within the permit boundary. No impact is expected to the current recreational uses of the area. SCM will preserve these uses into the postmining period.

During deer and elk hunting seasons, the accessible lands are used extensively by the public. Fishing is limited at best, with restricted access and no known game fish populations existing in the permit area streams.

Logging operations completed in 1996 by Cascade Resources within and adjacent to the permit boundary are shown on the Sale Area Map "Exhibit A" in Appendix 4-2. Exhibit A was prepared by Cascade Resources of Wellington, Utah who estimated harvesting six million board feet from the areas designated on the exhibit. Their logging contract expired on 12/31/96.

Timber within the disturbed area is very limited and therefore not economical for recovery by the logging industry. Exhibit B included in Appendix 4-2 shows SCM's timber inventory including areas logged and areas yet to be logged.

The nearest crop production (alfalfa) is approximately 4 miles southwest of the permit boundary adjacent to the Soldier Creek Road. Cultivation occurs on a year to year basis, depending upon the water available for irrigation.

#### **411.140 Cultural and Historic Resources Information**

Cultural resource information and maps identifying cultural and historical study areas are located within the confidential folder of information pertaining to this permit. An intensive cultural resource evaluation of the permit area has been conducted by Dr. Richard Hauck, Ph.D. of Archeological-Environmental Research Corporation (AERC). As part of this evaluation he also made a record search at the State Historic Preservation Office (SHPO) and the National Register of Historic Places (NRHP).

Cultural resource evaluations were performed on two sites within the permit boundary. Field evaluations on the historic Dugout Creek Mine (42CB 205/291) and on a prehistoric rock art site (42CB 92) were conducted by the AERC staff on November 20 - 22, 1995. Site 42CB 92, situated in the SE1/4 of Section 22, T13S, R12E, contains a series of pictograph panels first documented



by Dale Berge in 1977. The historic Dugout Creek Mine locus is situated in the NW1/4 of Section 23.

The historic components of the Dugout Creek Mine (42CB 205/291) are not considered to be significant and do not need to be avoided or mitigated prior to the development of the mine site. The prehistoric rock art site (42CB 92) is a significant resource and is eligible for nomination to the NRHP. Site 42CB 92 has been reported to the NRHP and BLM offices during previous cultural and historical studies of the area in 1977, 1980, and 1995 but is not currently listed on the NRHP.

The rock art panels are unstable and could be destroyed if blasting for road expansion is done within a 600-foot radius of the panels. SCM will make every effort to protect these rock art panels without drawing unnecessary attention to their location. The panels have been preserved primarily because the general public does not know of their existence. SCM will strive to maintain this condition.

The AERC report provides descriptive and valuational information for the two sites.

Cultural and historical inventories associated with the SITLA lease tract and adjacent areas are located in Appendix 4-1 and 4-3. This information should be held confidential by the Division.

The information in Appendix 4-3 was collected starting in 1980 and the last report was completed in 2003. According to information collected from the Price office of the BLM on March 23, 2004 and conversations with Mr. David Miller, there were no sites with artifacts considered for registration found in the areas surveyed and reported in 1980 through 1991. The conclusions were the same in the surveys conducted in 2001 - 2003. A letter from John Senulis, Archeologist with Senco Phenix detailing their file search and surveys of the area has been incorporated into Appendix 4-3. The letter is addressed to Kenny Wintch, the SITLA Archeologist and a copy has been sent to Mr. Dykman at SHPO. The letter states " No sites eligible for nomination to the National Register of Historic Places have been found in or adjacent to the permit expansion area. It is very unlikely that future survey will reveal sites eligible.....Furthermore all activity will be underground with no surface

disturbance. For these reasons a finding of "no effect on historic properties" is appropriate and archeologic clearance without stipulations is recommended."

Federal Lease Modification U-07064-027821 and ML-50582-OBA

Senco-Phenix (Archeological Consulting Services) conducted a Class 1 file search for the NW1/4NW1/4, Section 21, Township 13S, Range 13E (approximately 40 acres). The 40 acres has privately owned surface and federal coal.

The Class 1 file search results listed a survey in 2006 conducted by Senco-Phenix which included a walking survey of a portion of the NW1/4NW1/4, Section 21, Township 13S Range 13East. The survey area and a road surveyed in 2005 are shown on a drawing attached to a letter addressed to Vicky Miller, dated January 23, 2007 from Senco-Phenix. Copies of the letter and drawing have been provided to the Division for inclusion into Appendix 4-1 of the confidential folder as has a copy of the walking survey listed in the letter. **No cultural resources** were located during either of the surveys located by the file search, listed in the aforementioned letter.

During the June of 2007, an area of 580 acres were surveyed by Senco Phenix, an intensive walking survey was performed on 270 of these acres. The area surveyed includes parts of Section 16, 17, 18 and 21, T13S, R13E. A record search was performed on June 19, 2007. A salt lick was located during the walking survey, the lick consisted of 12"x12" block of commercially produced salt. The cultural resource located during the study was in the form of an isolated aspen art inscription, **no other cultural resources** were located during the survey. According to the study written report "a finding of no effect is appropriate and archeological clearance without stipulation is recommended".

**Cultural and Historic Resource Maps.** Maps and photographs for the evaluated cultural and historical sites are contained in the confidential folder.

There are no cemeteries, public parks, or units of the National System of Trails or the Wild and Scenic Rivers System located within the Dugout Canyon Mine permit boundary. The National

Register of Historic Places was consulted by AERC and no registered historic or prehistoric properties will be affected by the proposed mine development.

SCM agrees to notify the Division and SHPO of previously unidentified cultural resources discovered in the course of mining operations. Arch Coal Company has a registered professional geologist on staff assigned to Dugout Canyon Mine available to confirm vertebrate fossil material discovered during earth moving activities during construction of the Pace Canyon Fan Portal site. SCM also agrees to have any such cultural resources evaluated in terms of NRHP eligibility criteria. Protection of eligible cultural resources will be in accordance with Division and SHPO requirements. SCM will also instruct its employees that it is a violation of federal and state laws to collect individual artifacts or to otherwise disturb cultural resources.

**Coordination with State Historic Preservation Officer.** AERC contacted SHPO concerning the Dugout Canyon Mine site and a copy of their report was forwarded to SHPO. The National Register of Historic Places was consulted by AERC and no registered historic or prehistoric properties will be affected by the proposed mine development.

#### **411.200 Previous Mining Activity**

Coal mining has occurred within Dugout Canyon since 1925. D. J. Collins prospected for and initially hand-developed the Red Glow Mine in the Gilson seam on the east side of Dugout Canyon in 1925. The west side of Dugout Canyon was first mined in 1952 by E.S.O. Coal Company when they mined the Rock Canyon seam.

The Knight Ideal Coal Company mined the Rock Canyon and Gilson coal seams located on both sides of the canyon between 1958 and 1964. Knight Ideal Coal Company extracted 1,326,000 tons of coal by conventional room and pillar method with partial pillar recovery. The area in Dugout Canyon disturbed by mining has changed hands through the years but no coal has been extracted since 1964.

Limited exploration within existing portals was conducted by Pacific Gas and Electric in 1979 and by Sunedco in 1982. Following each exploration, the portals were resealed with earthen fill. During 1995, SCM reopened four portals, two on the east and two on the west side of Dugout Canyon. The portals on the east side were resealed but the portals on the west side were left open and fenced for security and safety.

Remnants of the Fish Creek and Pace Canyon Mine which operated in the early 1900's also exist within the permit boundary. Both mine sites have been considered for preservation by SHPO but were ineligible for nomination to the National Register of Historic Places. Pace Canyon contains the remains of earlier mining, disturbance by logging activities, and road access disturbance. The area was neither reclaimed or revegetated following the aforementioned disturbance.

## **412 Reclamation Plan**

### **412.100 Postmining Land Use Plan**

All uses of the land prior to mining and the capability of the land to support prior alternate uses will remain available throughout the life of the mine except within the disturbed-area boundary.

SCM intends the postmining land use to be consistent with the present land use, which is livestock grazing and wildlife habitat. Final reclamation activities such as grading and seeding as detailed within this M&RP will be completed in a manner to provide lands able to parallel the premining land use. In areas where surface disturbance will result from mining operations, soil reclamation and revegetation will restore the areas to wildlife habitat and livestock grazing capabilities.

The activities associated with the mining operation will follow accepted standards or proven techniques. Erosion hazards will be minimized and, where possible, eliminated. Evidence of abandoned improvements will be removed. Reclamation will restore the land and vegetation to as near a natural and productive condition as possible.

Efforts to restore wildlife habitat are discussed in Chapter 3 of this M&RP. Specific periods of habitation by wildlife species of the disturbed and adjacent area are discussed in Appendices 3-2 and 3-3. Since the disturbed area is privately owned the timing and extent of use for grazing will be made after reclamation by the landowner.

#### **412.200 Land Owner or Surface Manager Comments**

The land surface within the permit boundary is owned by various entities, including the State of Utah and Canyon Fuel Company, LLC (CFC). The disturbed area is on surface lands owned by both CFC , BLM and the State.

The leases contained in Appendix 1-1 list responsibilities accepted by CFC in regard to the State of Utah's lands within the permit boundary. The leases contain requirements concerning use and maintenance of their administered lands. CFC is obligated by these leases to notify the Division for their determination as to whether this mining operation will be detrimental to the State of Utah's interest. By submitting this M&RP, CFC is indicating that the operation will not be detrimental to the State's interests and the obligation is being met. A letter of affirmation from the State of Utah concerning proposed land use is included in Appendix 4- 2.

The Bureau of Land Management (BLM) Right-of-Way application (UTU-76601) in Appendix 1-3 lists the responsibilities accepted by CFC concerning the BLM lands included in the permit boundary. A letter from the BLM concerning proposed land use for Pace Canyon Fan Portal area and UTU-76601 will be included in Appendix 4-2.

Refer to Chapter 1 for responsibilities CFC accepts in association with Federal Lease U-07064-027821.

For clarification as to relationship of SCM to CFC, refer to Section 112.

#### **412.300 Suitability and Capability**

Final fills will not contain excess spoils.

#### **413 Performance Standards**

The performance standards for the areas to be reclaimed for postmining land use are contained in this section.

##### **413.100 Postmining Land Use**

Postmining land uses are discussed in Section 412.100. The postmining lands will be reclaimed in a timely manner and capable of supporting such land uses (see Chapters 2, 3, 5, and 7). The postmining roads are discussed in Section 542.600.

##### **413.200 Determining Premining Uses of Land**

Postmining land uses will be as stated in Section 412.

##### **413.300 Criteria for Alternative Postmining Land Uses**

No alternative postmining land uses have been planned.

#### **414 Alternative Land Use**

No alternative postmining land uses have been planned.

## **420 AIR QUALITY**

This section includes descriptions of plans to comply with the Clean Air Act and applicable Utah or federal statutes and regulations pertaining to air quality standards.

Dugout Canyon Mine (called the Sage Point-Dugout Canyon Mine under previous ownership by Eureka Energy Company) was granted a PSD permit by EPA on December 17, 1979. On February 12, 1982 the EPA approved air quality regulations adopted by the State of Utah. Subsequently, an Approval Order (AO) was issued on September 28, 1983 by the Utah Air Conservation Committee for the Sage Point-Dugout Canyon Mine. However the planned mining operations were never implemented.

Information collected for the PSD and the 1983 AO have been submitted to the Utah Division of Air Quality in a request for an amended approval order. This amendment was requested because of a change in surface equipment and a decrease in proposed coal removal from 5.2 million tons to 2 million tons per year.

### **421 Air Quality Standards**

Dugout Canyon's mining activities will be conducted in compliance with the requirements of the Federal Clean Air Act and the Utah Air Conservation Rules.

### **422 Compliance Efforts**

No mining activities will be conducted without a current AO from the Utah Division of Air Quality (DAQ). All activity will be conducted in compliance with the conditions established in the AO. A Notice of Intent (NOI) to construct has been submitted in accordance with DAQ document "Preparing Your Notice of Intent". Preconstruction conferences will be held as required by DAQ personnel. Emissions will be estimated using procedures and factors supplied by DAQ. A copy of the Approval Order and supporting information can be found in Appendix 4-1.

### **423 Monitoring Program**

An NOI was submitted to DAQ requesting approval for a production rate of 7 million tons per year. This rate exceeds immediate production plans, but approval at this level will preclude the necessity of reapplying if future production plans should increase. This approach is appropriate since an AO is subject to specific operating conditions rather than to a time period and thus does not expire at the end of a 5-year period as does the approval of the mining permit. If operating conditions change sufficiently to invalidate the AO, a new NOI will be prepared.

The operating conditions are specified in the NOI and form the basis of the AO. All monitoring requirements and fugitive dust control practices as established by the AO will be followed by SCM. Should additional requirements be established under the provisions of R645-301-244.100 or R645-301-244.300, these requirements will also be followed by SCM.

### **424 Fugitive Control Plan for Production Rates Less than One Million Tons Per Year**

During startup, or other situations where production is less than one million tons per year, the same procedures established in Section 423 will be followed and will be subject to the conditions of the AO issues by DAQ. See Section 523 of this M&RP for coal extraction estimates for the first 5 years of mining.

### **425 Additional Division Requirements**

Should an air quality monitoring program be required by the Division while operating at a production rate of less than one million tons per year, SCM will provide sufficient data to judge the effectiveness of the fugitive dust control plan.



**REFERENCES:**

Berge, D. L., 1976. The archaeological potential of the sage point coal mine, surface facilities and railroad spur, central Utah.

Division of Air Quality, 1994. Preparing Your Notice of Intent, Fifth Edition.

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Julander, O. 1955. Deer and cattle range relations in Utah. Forest Science 1 (2):130-139.